

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

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Claim 1 (currently amended): A speech synthesizing method comprising:
an the extraction step of extracting a plurality of small speech segments from a speech waveform;
a the prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while limiting processing of prosody control for a selected small speech segment of the plurality of small speech segments; and
a the synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

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Claim 2 (currently amended): The method according to claim 1, wherein
the method further comprises an the adding step of adding limitation information for inhibiting execution of predetermined processing for the selected small speech segment, and
in the prosody control step, execution of the predetermined processing for a small speech segment to which the limitation information is added is inhibited in executing the prosody control.

Claim 3 (original): The method according to claim 2, wherein
the predetermined processing includes deletion of a small speech segment, and
in the prosody control step, deletion of the small speech segment to which the limitation information is added is inhibited when reduction of an utterance time of synthesized speech is performed as the prosody control.

Claim 4 (original): The method according to claim 2, wherein

the predetermined processing includes repetition of a small speech segment, and
in the prosody control step, repetition of a small speech segment to which the
limitation information is added is inhibited when prolongation of a time of synthesized speech is
performed as the prosody control.

Claim 5 (original): The method according to claim 2, wherein
the predetermined processing includes a change in an interval of a small speech
segment, and

in the prosody control step, a change in an interval of a small speech segment to
which the limitation information is added is inhibited when making a change in a fundamental
frequency of synthesized speech as the prosody control.

Claim 6 (currently amended): The method according to claim 1, wherein
a storage unit means in which a plurality of window functions arranged along a
time axis and limitation information corresponding to at least one of the window functions are
stored is used,

in the extraction step, small speech segments are extracted from a speech
waveform by using the plurality of window functions, and

in the prosody control step, when limitation information is made to correspond to
a window function, a small speech segment extracted by using the window function is selected
and the limitation is imposed on the small speech segment on the basis of the limitation
information.

Claim 7 (original): The method according to claim 2, wherein in the adding step,
the limitation information is added to a small speech segment corresponding to a specific
position on a speech waveform.

Claim 8 (original): The method according to claim 7, wherein the specific position includes a boundary between a voiced sound portion and an unvoiced sound portion.

Claim 9 (original): The method according to claim 7, wherein the specific position includes a phoneme boundary.

Claim 10 (original): The method according to claim 7, wherein the specific position is a predetermined range including a plosive, and the predetermined range includes a plurality of small speech segments.

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Claim 11 (currently amended): A speech synthesizing apparatus comprising:
~~an extraction unit configured to extract~~ extraction means for extracting a plurality of small speech segments from a speech waveform;
~~a prosody control unit configured to process~~ prosody control means for processing the plurality of small speech segments to control prosody of the speech waveform while limiting processing of prosody control for a selected small speech segment of the plurality of small speech segments; and
~~a synthesizing unit configured to obtain~~ synthesizing means for obtaining synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit means.

Claim 12 (currently amended): The apparatus according to claim 11, wherein the apparatus further comprises ~~an adding unit configured to add~~ adding means for adding limitation information for inhibiting execution of predetermined processing for the selected small speech segment, and

said prosody control unit means inhibits execution of the predetermined processing for a small speech segment to which the limitation information is added in executing the prosody control.

Claim 13 (currently amended): The apparatus according to claim 12, wherein the predetermined processing includes deletion of a small speech segment, and said prosody control unit means inhibits deletion of the small speech segment to which the limitation information is added when reduction of an utterance time of synthesized speech is performed as the prosody control.

Claim 14 (currently amended): The apparatus according to claim 12, wherein the predetermined processing includes repetition of a small speech segment, and said prosody control unit means inhibits repetition of a small speech segment to which the limitation information is added when prolongation of a time of synthesized speech is performed as the prosody control.

Claim 15 (currently amended): The apparatus according to claim 12, wherein the predetermined processing includes a change in an interval of a small speech segment, and said prosody control unit means inhibits a change in an interval of a small speech segment to which the limitation information is added when making a change in a fundamental frequency of synthesized speech as the prosody control.

Claim 16 (currently amended): The apparatus according to claim 11, further comprising a wherein storage unit means in which a plurality of window functions arranged along a time axis and limitation information corresponding to at least one of the window functions are stored is used,

wherein said extraction unit means extracts small speech segments from a speech waveform by using the plurality of window functions, and

said prosody control unit means, when limitation information is made to correspond to a window function, selects a small speech segment extracted by using the window function and imposes the limitation on the basis of the limitation information.

Claim 17 (currently amended): The apparatus according to claim 12, wherein said adding unit means adds the limitation information to a small speech segment corresponding to a specific position on a speech waveform.

Claim 18 (original): The apparatus according to claim 17, wherein the specific position includes a boundary between a voiced sound portion and an unvoiced sound portion.

Claim 19 (original): The apparatus according to claim 17, wherein the specific position includes a phoneme boundary.

Claim 20 (original): The apparatus according to claim 17, wherein the specific position is a predetermined range including a plosive, and the predetermined range includes a plurality of small speech segments.

Claim 21 (original): A control program for making a computer implement the speech synthesizing method defined in claim 1.

Claim 22 (original): A storage medium storing a control program for making a computer implement the speech synthesizing method defined in claim 1.

Claim 23 (new): A speech synthesizing method comprising:
an extraction step of extracting a plurality of small speech segments from a speech waveform;

an adding step of adding limitation information for inhibiting execution of predetermined processing for the selected small speech segments,

a prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while inhibiting execution of the predetermined processing for a small speech segment to which the limitation information is added; and

a synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

Claim 24 (new): A speech synthesizing method comprising:

a step of providing a storage unit in which a plurality of window functions arranged along a time axis and limitation information corresponding to at least one of the window functions are stored;

an extraction step of extracting a plurality of small speech segments from a speech waveform by using the plurality of window functions;

a prosody control step of processing the plurality of small speech segments to control prosody of the speech waveform while limiting processing for selected small speech segment which was extracted by using the window function to which the limitation information corresponds; and

a synthesizing step of obtaining synthesized speech by using the speech waveform for which prosody control is performed in the prosody control step.

Claim 25 (new): A speech synthesizing apparatus comprising:

an extraction unit configured to extract a plurality of small speech segments from a speech waveform;

an adding unit configured to add limitation information for inhibiting execution of predetermined processing to a selected small speech segment of the plurality of small speech segments,

a prosody control unit configured to process the plurality of small speech segments to control prosody of the speech waveform while inhibiting execution of the predetermined processing for a small speech segment to which the limitation information is added; and

a synthesizing unit configured to obtain synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit.

Claim 26 (new): A speech synthesizing apparatus comprising:

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a storage unit in which a plurality of window functions arranged along a time axis and limitation information corresponding to at least one of the window functions are stored;

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an extraction unit configured to extract a plurality of small speech segments from a speech waveform;

a prosody control unit configured to process the plurality of small speech segments to control prosody of the speech waveform while limiting processing of prosody control for a selected small speech segment of the plurality of small speech segments; and

a synthesizing unit configured to obtain synthesized speech by using the speech waveform for which prosody control is performed by said prosody control unit.
